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ABSTRACT

Described is a music program for students with reading learning disabilites. It is explained that the program was designed to teach fundamental music skills, to teach visual/motor and auditory skills through music activities, and to evaluate the effect of music skill development on language reading skills. The daily routine of music exercises, including memory song games, rhythm exercises, singing activities and sequencing drills is reviewed. Student improvement in auditory, motor, visual, and social development is noted. (CL)

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MUSIC FOR CHILDREN WITH READING LEARNING DISABILITIES

Presentation by Betsy G. Moyer
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at the International Federation of Learning Disabilities Conference held in Montreal, Canada -- August 9 - 13, 1976

In February 1975 a pilot program was launched at the All Newton Music School in Newton, Massachusetts: "Music for Children with Reading Learning Disabilities." Classes were instituted for students of all ages, and in addition a course of seminars was offered to teachers, parents, and others interested in teaching music to learning disabled students.

The goals of the program have been three-fold:

1) To teach music skills -- that is, to give children with reading learning disabilities and an interest in music a foundation for future success in music,
2) To teach <u>through</u> music -- through special drills, games and exercises related to the visual/motor and auditory skills involved in reading music to help remediate difficulties in these same areas as they relate to language reading,
3) To evaluate the extent to which the development of music skills results in improvement in language reading skills.

In meeting the first of these goals -- teaching music skills -- there have been three main thrusts in our work with learning disabled students: first, RHYTHM, teaching students to perceive and to comprehend rhythmic patterns of ever-increasing length and complexity, to duplicate

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these patterns with large as well as small muscle groups.

Second, SINGING, teaching students to perceive and comprehend melodic patterns of ever wider pitch range and complexity and to reproduce these patterns vocally, in tune, and with the correct rhythm.

Third, NOTATION, teaching students not only to read or decode but also to notate or encode music, first in its rhythmic dimension, then its melodic dimension, then fusing these two elements into a crude rhythmic/melodic notation, and then finally introducing the refinements of staff notation.

By addressing ourselves, through the areas of strength, to the deficit areas of these students, we have been able successfully to realize our second goal, i. e. helping remediate their difficulties through music. It would perhaps be overstating the benfits of music instruction to say that all children must have it. However, children with reading learning disabilities desperately need many of the basic skills which music instruction is uniquely able to give them.

The slides which you are about to see will show the work of Mrs. Louise Bielski, the learning disabilities specialist, and myself, the music specialist, with a class of children at the All Newton Music School. This demonstration class has had two 45 minute classes per week, 15 weeks per semester. Two of the children have been in the program since its

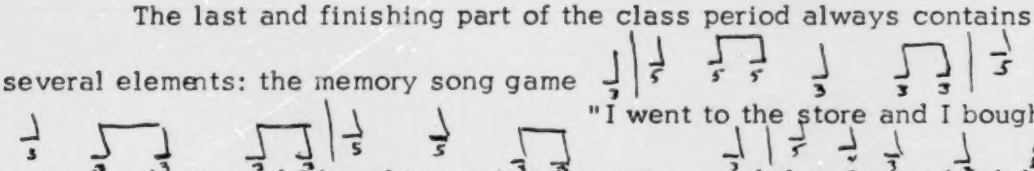
beginning and have had three semesters of classes. Two joined the program in the fall of '75 and have had two semesters of instruction. All the children in our program have been diagnosed by their schools or physicians as dyslexic or reading learning disabled and come to us with a profile showing a variety of specific problems, including auditory perception deficits, motor deficits, laterality problems (inability to tell right from left), hyperactivity, poor attention span, poor self-image, etc. The only two qualities which they all seem to have in common are (1) their intelligence: they are all bright, and, (2) their eagerness to learn. Also, they have no other handicap, such as blindness.

Possibly the best way to present our work with learning disabled children is to show you some of the games, exercises, and drills we use in trying to remediate their deficits (while at the same time teaching them music), or, to reverse the order of the hen and the egg, in trying to teach them music (while at the same time remediating their deficits).

Taking first the whole area of their special needs as students in a social/learning setting: it is important that the classes have a consistent and predictable routine and structure. When the children enter our classroom, they take off their shoes and put them neatly in the corner. While the class is assembling, they spend a few minutes drawing pictures based on some theme -- grocery store, a ball game, their own bedroom, etc. These drawings will be used later in a game.

The children have been in school all day; they need this period of relaxing to unwind. Next we have a so-called rhythm warm-up time when we do a number of rhythm and movement exercises and games, most they already know but we always introduce something new. Basic to our approach is the constant repetition to strengthen already learned skills and material while introducing new elements built on these already learned skills.

Next the entrée or main course -- the particular element of notation, a new song or concept, the most challenging portion of the class -- interspersed with singing and what I call "circuit breakers" -- quick games to relieve tension or to regain the attention of the class, here, for example, one or two rounds of "Simon Says."

The last and finishing part of the class period always contains several elements: the memory song game  "I went to the store and I bought some doughnuts and I bought some apples, etc., and then I went back home." This game uses the drawings they made earlier, placed first face-up on the floor, and then turned over face-down for them to remember in the correct order. Then the ever-popular phone message game where the "it" person whispers a brief message into his neighbors ear. That person passes the message on, the challenge being for the message (or messages) to return to the "it" person just as he gave it out. And, finally, one child dismisses the class by touching each student on his <u>right</u> shoulder, an exercise in directionality and laterality.

So the rhythm, tempo, and flow of the class, 1) drawing and relaxation, 2) body movement and rhythm, 3) singing and more formal instruction, and 4) end games, sets a structure which produces a sense of security in the children

Also, rules of conduct and class routine are important and should be enforced consistently and cheerfully. Although children balk at rules, they feel insecure without rules. They must be considerate of one another and wait their turn patiently. They must not talk unless recognized and to be recognized they must always raise their right hands. We have two main rules of conduct in our music making: first, we must always start together with a "ready-go" signal, and, second, no rushing.

A large part of each class period is spent in the general area of large motor control through a variety of rhythm exercises. At first students must learn to perceive and walk or clap a steady pulse or drum beat, first at a speed approximating the human heart beat or somewhat slower, then a faster rate, and then (this is harder) a very slow beat. Always start with the most natural exercise, and when that is thoroughly mastered and automatized, move to more difficult exercises or variations of the same exercise.

Here the children are walking the beat -- quarter notes or crochets; we call them ta's after the rhythm names used by Zoltan Kodaly in Hungary. After mastering this we add clapping ta's at the same time. Now, after being in our class, the children can walk ta's while clapping on a verbal signal ta's, titi's (eighth notes or quavers), long ta's (half notes or minims), or

tiri-tiris (sixteenth notes or semi-quavers). All of our students have shown remarkable improvement in these rhythm exercises, and some of the students from being clumsy and ill-coordinated, now demonstrate the high level of motor coordination represented by the ability to perform these exercises. While concentrating on the areas of large motor control and rhythm, they combine inevitably with other areas of auditory perception, directionality, and because of our no-bumping rule, are good drills for increasing students' body image sense -- where is the edge of themselves and the beginning of the space around them.

Another motor-rhythm exercise which combines an even higher level of auditory perception involves the children performing one body motion, e. g., walking, clapping, snapping, patching, clucking their tongues, -- anything, to the drumbeat; another motion to the sound of the cymbal; another to the sound of the triangle. This exercise, like so many, is capable of infinite variation and refinement. We have used two notes of the xylophone -- very far apart, then two closer, along with the drumbeat, to sharpen their auditory perception.

One of the challenges in teaching these children is: how to do essentially the same exercise over and over to automatize the skill it teaches while at the same time varying the exercise to keep its play quality and to maintain the interest of the class.

In the motor/rhythm exercise of passing the ball to the beat of the drum we strengthen the sense of directionality and laterality. The students, sitting in a circle on the floor, put one hand, left for example, behind their bodies. With the right they pass the ball in one direction to the beat of the drum. Again, this exercise is capable of infinite variations -- by putting the right hand behind the back they pass with the left, change direction of the ball on an auditory signal, have more than one ball going, kneel or stand while passing the ball, chant a rhyme while passing the ball: "The magic ball goes round and round so fast you cannot see it. If you're the one to hold it last you are it." This is a chant contributed by one of the members of the class. We get a lot of excellent ideas from the children themselves. The "it" person can start the ball or can be given the assignment of being the drummer. It is a long time before they have enough control to keep a completely steady beat, but this further variation is an excellent means of giving brief individual attention and instruction to one student in the group situation.

Jaques-Dalcroze, the creator of music instruction called "eurhythmics," claimed, as did Plato, that rhythm is essential to the most elemental functioning and happiness of the individual.[1] Rhythm is present in all the activities of our life. The element of rhythm is present,

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1. Jaques-Dalcroze, Emile: Eurythmics, Art and Education, trans. by Fr. Rothwell, A. S. Barnes, New York City, 1935, pp. 102-104.

also, in all of our exercises, games and drills. Perception of rhythms,[1] ability to reproduce them with one's body, by clapping or snapping or performing them on an instrument, the ability to write down or encode a heard rhythmic pattern into a visual pattern, or, the other way around, to decode, or perform from a seen pattern into a heard rhythm pattern -- these are primary goals in our music instruction with the children.

After establishing firmly a sense of beat or pulse we move to the perception and reproduction of rhythm patterns involving longer and shorter notes built on a steady pulse. Starting with short patterns -- long...short short -- we move to longer units or measures, then combine these measures into phrases. We start with echo-rhythms games -- I clap a pattern, they clap it back. We vary this basic exercise by introducing rhythm instruments, having children take turns being the leader, having the children turn their backs -- this is important in order to be sure they are responding to the sound alone and not to the sight of your clapping.

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1. A rhythm is "a series of connected movements forming a whole and capable of being repeated. The minimum number of movements forming a rhythm is two." Jaques-Dalcroze, Emile: Eurythmics, Art and Education, trans. by Fr. Rothwell, A. S. Barnes, New York City, 1935, page 3.

Each student is given a rhythm name based on syllables and accents in his own name, e. g. Betsy Moyer is | | | |, and Louise Bielski is ⌈| ⌈| |. We use these rhythm patterns in infinite ways -- to call on or identify children, as building blocks in creating rhythm phrases, as a basis for many games and drills.

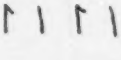
Here is an advanced version of our basic echo-rhythm exercise. The students form a circle on the rug; their positions can be designated by rhythm names -- "Would | | ⊓ | stand here, etc." After all are in a circle standing, "Now, to a slow count of ten I want you to melt like snowmen until you are sitting in your own place on the rug." It is important always to use every opportunity to teach something -- you might call this the "every golden moment" approach.

The children are now sitting in a circle. The first student claps a rhythm to my count of 4 to his neighbor. The neighbor echoes that rhythm and then -- without losing a count -- he claps one to his other neighbor, and so on around the circle. This is a good game for introducing 5-beat measures or even, much later, 6 or 7 beat measures.

All of our exercises integrate many skill areas. This one is an excellent sequencing and memory exercise as well as a motor/rhythm exercise.

As soon as the students are able easily to reproduce a variety of rhythmic patterns -- are able to transfer an auditory pattern into a motor generated reproduction of it -- we give names and symbols to the

elements of the rhythm patterns. This not only strengthens, through other modalities, their comprehension, but also becomes the foundation for teaching musical notation. We call the longer notes (quarter or crochets) "ta's" and the shorter notes (eighths or quavers) "titi's." At first we use the shorter notes only in pairs.

In creating visual symbols, start first with things that are ordinary, familiar, concrete.-- a larger one for ta's and a smaller one for ti's. We use grapefruit for ta's and apples for ti's. These have been very successful and engaging symbols. They are colorful, familiar, suggestive, feel good. The apples at first are used always in pairs, but later we allow them to be used singly, which, of course, introduces the rhythmic element of syncopation. It is especially good when the students themselves bring up new things. If they set up a pattern of apple, grapefruit, apple, grapefruit, grapefruit, then we have the syncopated rhythm ti-ta--ti-ta--ta--  . This is Louise Bielski's rhythm name, and I do not give us as teachers rhythm names until we have come to this point in our rhythm work.

It is very easy, after the students have mastered the concept of an object being a symbol for a sound duration, to move from the grapefruit/apple "notation" to a more refined musical notation which I call "rhythm stems." For ta's (quarters, crochets) and ti's (eighths or quavers) we use the stems used in musical notation -- a vertical stroke downward for the ta , the same with a slanted stroke to the right at the top of the stroke for a ti , and two vertical strokes connected at the top by a cross-

bar for titi .

We work for a long time with just ta's and ti's in an infinite variety of exercises to integrate the visual symbol, the name ta and ti, the motor production of the rhythm pattern, the sound of the rhythm pattern -- the motor/visual/auditory modalities integrating to produce complete comprehension. After ta's and ti's are fully mastered, we introduce other rhythm elements in the following order:

Musical name	Our name	Our symbol
quarter rest	rest	
half note (minim)	long ta	
whole note	four beat ta - a	
dotted quarter	ta dot	
dotted half note	3 beat ta	
eight rest	rest (but said quickly)	
sixteenth notes	tiri tiri	

etc.

We also have motor symbols for each rhythm element: quarters and eighths are simple claps; half, dotted half, whole and dotted quarter notes are claps with a holding motion on that portion of the note that is longer than a quarter; rests are a spreading outward of the hands to show no sound.

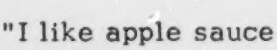
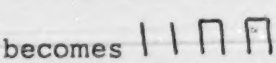
Here we have put a number of rhythm patterns on cards, including some of the students' rhythm names, always. I clap the rhythm of one of the cards. As soon as a student thinks he can properly identify the card and clap its rhythm, he raises his hand -- his right

hand, and if he succeeds he may clip the card to the rhythm card line, starting from the left always. We work first with one, then two, then four cards. After we have four cards -- a phrase of four measures -- we work with this longer unit, the crowning achievement being when a student can correctly reproduce the whole pattern from memory, with no hesitation and no rushing.

Here is another drill, based on the consonant-vowel-consonant drill cards used in remediating reading disabilities. The idea is to change one element in the word with each entry on the card, e. g. pig peg pug tug tag, etc. We have elaborated on that idea.

We do a lot of work at the blackboard -- listening to rhythms and writing them on the board, clapping rhythms that are written on the board. This is my basic tool for teaching the elements of musical notation, but we also do work on paper at the desk. These papers are all individually tailored to the material being studied, and there are always some ready for distribution for quiet working at the desk if things get noisy. This is a good "circuit breaker," and also gives the children something to take home and keeps the parents apprised of the progress. It is also important for them to see notation of various sizes on various surfaces. If children are used to reading theirs and other students' musical notation, they are not likely to be thrown by the neater variations encountered in printed musical editions.

We try as much as possible to relate the elements of music reading to the parallel elements in language reading. The double bar

at the end of a phrase or melody performs the same function as a period at the end of a sentence in written language. We read always left to right, then down one line and left to right again. We change word patterns into rhythm patterns -- the rhythm names already mentioned; "I like apple sauce" becomes  ; "I like peanut butter" becomes  . Perceiving the rhythm of words is important to comprehension of them.

In the broad area of auditory perception we have found that many learning disabled children have difficulty in singing and in distinguishing high from low sounds. This is in part, at least, a problem of semantics. We use the terms high and low in so many ways: "Lower your voice." "Turn the volume down, or up." A deficit in pitch perception affects their ability to perceive vocal or verbal inflections, whether heard or read.

Singing is stylized speech. "Music," said Carl Orff, "is the melody of language:..The influence of language on the melodic form is apparent."[1] Although our goal is not to teach a repertoire of songs -- they can get that elsewhere -- we do teach a number of

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1. Liess, Andreas: Carl Orff, trans. by Parkin, St. Martin's Press, New York City, 1966, pp. 51-53.

songs and singing games for the skills which can be learned from them.

Many so-called monotones or non-singers in public school do not succeed in singing because:

1) songs taught by records or from a songbook are often pitched far too high for most children, or,
2) the pitch range is far too wide, or
3) the students have never been given the individual attention necessary to encourage them to find and to use their voices.

We have had good success in teaching our non-singing students to sing and to enjoy singing. We start with a very small and comfortable vocal range, perhaps only f' and d' at first, these being 5 and 3 or sol and mi in the key of Bb major. We have several sure-fire ways to stimulate singing. Just as we gave each student a rhythm name at first, we give them also a tune name and call on and identify them by their tune name. For example, my tune name is: $\bar{1}\ \bar{2}\ \bar{3}\ \bar{1}$ Louise's is: $\bar{5}\ \bar{3}\ \bar{2}\ \bar{1}\ \bar{1}$ Our children enjoy singing their own and other's tune names as much as they enjoy clapping their rhythm names and like the numerous games and exercises built around this simple device which answers a very human need in all of them -- the need for a special and happy identity.

In teaching pitch perception we tend <u>not</u> to ask is this high or low

because of the semantic problems mentioned earlier. We use simple hand signals or body movements to indicate that pitches are high or low. Not until they are quite secure in the concepts of the words high and low, as we use them, do we ask, "Is the slide whistle going up? Show by your hand the direction in which it is going, up or down."

From the hand signs it is easy to go to melodic notation, which I introduce by a simple shorthand dash and number system, the dashes showing the relative highess or lowness of the pitches in a tune and the numbers, 1 - 7, showing their position within the scale series.

I have decided in favor of numbers rather than the do-re-mi (or sol-fa) system to show the relationships of pitches since the latter syllables introduce a whole new set of symbols for the students to learn and deprive us of the opportunity to let their number concepts strengthen their pitch concepts, or, the reverse, let their musical melodic concepts strengthen their quantitative number concepts.

We play a question and answer game to stimulate singing and vocal inflection which will relate music melody to language. "How's the weather out today?" Here the student answered, "It is humid." Or, "Have you any news today?" Or, "What did you do last week end?" We praise and encourage answers that end on 1 ("do" or the "tonic").

We adapt many of the games used to automatize rhythm concepts and notation for use in automatizing pitch and melody concepts and notation. When these two elements are fully automatized, the magic moment for Phase II in music notation comes and the students are ready for the

fusing together of these two elements into one set of symbols which has a dual function and shows both the rhythm and the pitch of a melody.

Children with normal perceptions who study music are routinely confronted at a first music lesson not only with what our children have taken a semester to learn but more. They are usually introduced to complete staff notation as well as the complications of their own instrument. Despite these discouraging circumstances most children with normal perception and reasonable musical ability might master the concepts we have taught in less than a month, possibly even in one lesson, whereas reading learning disabled students might need one and a half or two semesters of work. Normal children would not be confused by a symbolism with two meanings -- pitch and rhythm. Reading learning disabled children are confused and must automatize one element, then the other, and then fuse them together. This procedure takes time, but the failure to take the time to go patiently step by step through this procedure produces failure and discouragement and results in another in their growing number of bad experiences. As one of our high school students said to me, "It isn't that we can't learn these things; it is just that it takes us longer and we have to use different approaches."

Now it is time to automatize this new Phase II rhythm-pitch notation. We use the tune-rhythm names, of course, in a variety of ways: we take dictation at the desk or on the board; having written out a tune in rhythm-pitch notation we clap it and say the ta's and ti's,

sing the pitch names while clapping the rhythm; sing the words to the song while clapping the rhythm; sing the pitch names while giving the pitch signs in the air; sing the song with words while giving the pitch signs in the air; the variations are limitless.

After this notation is automatized we introduce the students to a variety of pitched instruments not only to give them a broad basis for any instrument they might wish to pursue in the future but also to to give another dimension to music reading and to train their small muscle groups. Playing the xylophone, the metallophone, the piano, the recorder integrates all the basic skill areas we've been working in, motor/visual and auditory as well as social skills.

They all learn several songs on the piano, including one which crosses the midline, learn a good versus a bad body and hand posture. We learn too about building scales and through this simple scale chart placed behind the keys of the piano

we get away immediately from an all-white key fixation with C Major. Here we are ready to play Hot Cross Buns in E major.

It takes a long time for the students' understanding of musical notation, their social skills, their self-monitoring and impulse control (keeping their instruments and themselves quiet while waiting for

instructions or their turn for help or for the ready-go sign. But once these basic skills are acquired we have quite a good time with the rhythm band. The students have already had a broad range of experience with rhythm instruments. The xylophones and metallophones are easiest to use in C major, so most of our rhythm band work is in that tonality.

Here each student has an instrument and a part written for that instrument as an "orchestration" of one of the pieces we have learned on the piano. After rehearsing in this position and giving a reasonable performance this way, we rotate positions one turn clockwise so that each student now has a different instrument and a different part to play. We continue this until we come back to the beginning position, each student having a turn with each instrument, thus avoiding any threat to their egos or any feeling that they missed out on their favorite instrument. It is difficult to be completely fair, even in a small class, but the children appreciate a teacher's efforts to treat each student equally.

We use the recorder to introduce the students to wind instruments and also to teach Phase III of musical notation: staff notation. First, they learn by rote a song, sing it, then we all write it on the blackboard with our Phase II rhythm-pitch notation. Then we sing it holding up the left hand recorder fingers which cover the holes to produce G, A, and B. Then we play it on the recorder, phrase by phrase till each

phrase is easy. Then we write it in staff notation. We repeat and repeat this -- with variations -- until these skills are automatized and we can teach new notes on the recorder, new notes on the staff, new songs, new rhythms, new concepts.

Occasionally we put on a musical dramatization of a story of their choosing -- "Three Little Pig," or "Goldilocks." Each student has songs to sing and lines to speak, the lines ad libbed according to the story. They make their own simple costumes and we concoct simple props to locate trees, houses, etc. This is the catalyst for introducing many new ideas which are easy to teach and easy for the children to learn because the motivation is so high. It is also a good opportunity for the parents and families to see what we are doing. And we always enjoy a good party and food.

We have touched on motor skills, rhythm, auditory perception, pitch perception, singing . . . There are other language skills that can be reached through music, e. g., sequencing. This skill area is covered by many of our games and exercises, but there are several games we play to isolate and strengthen this skill area.

In one of our classes most of the children have trouble with sequencing, so we play this game, or a variation of it, in nearly every

class session. We tailor the exercises to the needs of the class.

Here with the students' eyes first open to see what I am doing and then shut so they hear only, I give a short series of sounds (3 at first, more later), e. g., triangle triangle cymbal. The student who can reproduce the sequence, in the same rhythm and duplicating as nearly as possible the timber and volume may demonstrate to the rest of the class. If he is correct, he is rewarded with praise and inner satisfaction; if he is incorrect, he has another chance or is given a simpler pattern. We avoid any exercise or game which produces one winner and the rest losers. We try to make every experience end in success for all the students, make winners of them all. (Even musical chairs we play with a chair for everyone.) These children are confronted with little failures so much of the time -- in school, at home. We like to make our classes a haven of success and happiness for all of them. Indeed, we see this as possibly our most important goal, our super-goal: that our classes be an opportunity for building their egos and self-confidence so that after every class they can feel, "I did well, I learned something, I had a good time." A child who has no repeated happy success and has a poor feeling about himself will be a poor learner. Going back to Jaques-Dalcroze: "Education does not consist in creating faculties which the pupil does not possess, but rather in enabling him to obtain the utmost possible benefit from those he possesses."[1]

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1. Jaques-Dalcroze, Emile: Eurythmics, Art and Education, trans. Fr. Rothwell, A. S. Barnes, New York City, 1935, page 97.

In meeting our third goal, which was, to evaluate the relationship between skills taught in a music setting and those taught in a language reading setting--is there any transfer of learning from one to the other? and how much?-- we do not have measurements and statistics to prove how much progress was made in these skill areas, whether students' progress was confined to their performance in music or even just to our class, or whether the improvement cut across the whole gamut of their activities, reading as well as others.

We have seen enormous improvement in our students in all the modalities, auditory, motor, visual, social. This we observe. We have the testimonials of their teachers and their parents as to the effects of our music instruction on their reading. We have been in close contact with the reading tutors and parents, and the reports have ranged from excellent to positively glowing. Teachers have reported remarkable improvement in areas of sequencing, comprehension, scanning, mathematics. One ecstatic mother showed me a paper her son had done in math -- 100% correct. A short time ago he had been a failure in math. I think the explanation for this was simple; he had finally learned his right from his left because of our constant and persistent exercises in laterality and now knows invariably which side of the column of figures to add from.

In conclusion I would like to say that the link missing in our work in music with learning disabled children has been the sciences. We need a child study team -- a psychologist, a neurologist, an L. D. specialist -- to pretest and posttest these children against a control group to come up with some hard date to prove -- or disprove -- our contention that the arts, and especially music, have a unique and vital contribution to make in the education of our youth, especially the 10% who have reading learning disabilities.

However, the child cannot wait while we find the complete answer to why he is as he is or the perfect solution to his problems. Every day that postpones remediating his disabilities makes these disabilities that much more deeply rooted in him.

My observation is that music instruction, when directed toward the disabilities of learning disabled children, can and do help remediate these disabilities, miraculously, in ways which I do not myself understand. All I know is that it is a practical approach that works.

Going back to Jaques-Dalcroze: "Education does not consist in creating faculties which the pupil does not possess, but rather in enabling him to obtain the utmost possible benefit from those he possesses."[1]

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1. Jaques-Dalcroze, Emile: Eurhythmics, Art and Education (tr. Fr. Rothwell), A. S. Barnes, New York City, 1935, page 97.